REMARKS

This paper is presented is in response to the Office Action mailed December 2, 2008. Claims 1-8, 10-17, 23, and 27-30 are amended. Claims 1-8 and 10-30 are now pending.

Reconsideration of the application is respectfully requested in view of the above amendments to the claims and the following remarks. For the Examiner's convenience and reference, Applicant's remarks are presented in the order in which the corresponding issues were raised in the Office Action.

II. Allowed Subject Matter

The Examiner's indication that claims 7, 8, 10, and 11 are allowed is appreciated. Applicants wish to thank the Examiner for the careful review and allowance of those claims.

Claim 4 is objected to as being dependent on a rejected base claim but would be allowable if rewritten to include the elements of the base claim and any intervening claims. By this amendment claim 4 has been amended to incorporate all of the elements of claim 1 and is therefore believed to be in condition for allowance.

II. Rejections under 35 U.S.C. §103

Claims 1, 3, 5, 6, and 12-30 stand rejected under 35 U.S.C. §103 in view of U.S Patent No. 6,104,510 (*Hu*). Applicant respectfully traverses the rejection on the grounds that the cited reference fails to teach or suggest all of the elements of the rejected claims.

Hu teaches a scanner that uses light sources having different colors to illuminate a document. Blue light is provided by a high intensity cold cathode fluorescent lamp (CCFL) whereas red and green light is provided by LEDs. Abstract. In use, the "blue [CCFL] is turned on upon a scanning object is ready to be scanned and kept on during the entire scanning process while a red LED [] and a green LED [] are turned on alternatively." Col. 6, lns. 41-45.

The LEDs do not generate more heat than the CCFL in *Hu* and are further incapable of shortening a warm-up period of the CCFL. As pointed out in the document attached as Exhibit A, produced by the Energy Star program sponsored by the U.S. Environmental Protection Agency and Department of Energy, LEDs do not produce significant amounts of heat. In fact, whereas 80% of power used by a fluorescent light source is radiated as heat, an LED radiates no significant amounts of heat. See p. 2, paragraph beginning "LED lighting products ...."

In contrast, claim 1 recites, in combination with other elements, "a cold cathode fluorescent lamp (CCFL) for generating light; a heating light source for generating light …wherein the heating light source *generates an amount of heat effective to shorten a warm-up time period of the CCFL*, and when the timer determines that a time period starting from the CCFL being enabled reaches the predetermined time period, the controller turns off the heating light source and performs scanning of a document using the CCFL."

As noted above, the LEDs of *Hu* do not generate any significant amounts of heat and further fail to generate heat in the amounts indicated in claim 1. Furthermore, in the cited passage of *Hu*, although the LEDs are turned on and off, they are not controlled according to a timer in the manner described in claim 1. For example, the LED of *Hu* is not turned off when "a time period starting from the CCFL being enabled reaches the predetermined time period," as recited in claim 1. Instead, the LEDs of *Hu* are used only to perform different color scans with no reference to a timer or a time at which a CCFL is enabled. Col. 6, lns. 41-45.

With respect to claim 12, for at least the reasons noted above with respect to claim 1, *Hu* fails to teach or suggest, in combination with the other elements of the claim, a scanner "wherein the heating light source *generates an amount of heat effective to shorten a warm-up time period of the CCFL from between 45 and 90 seconds to between 15 and 30 seconds*, and when the timer determines that a time period starting from the lamp being enabled reaches the predetermined time period, the controller turns off the heating light source."

With respect to claim 17, for at least the reasons noted above with respect to claim 1, *Hu* fails to teach or suggest a method including the elements of "powering a lamp and a heating light source, a warm-up time period of the lamp being longer than a warm-up time period of the heating light source, *the heating light source generating an amount of heat effective to shorten a warm-up time period of the CCFL from between 45 and 90 seconds to between 15 and 30 seconds*; starting a timer upon powering of the lamp and the heating light source; and upon expiration of a set time period, ceasing to power the heating light source."

With respect to claim 23, for at least the reasons noted above with respect to claim 1, *Hu* fails to teach or suggest a method including the elements of "providing a lamp; providing a heating light source having a warm-up time period considerably less than that of the lamp and *being configured to generate an amount of heat effective to shorten a warm-up time period of the lamp*; providing a timer; and coupling a controller to the lamp, heating, light source, and timer,

the controller configured to power the lamp and heating light source, to start a timer upon powering of the lamp and heating light source, and to turn off the heating light source upon expiration of a predetermined time period."

With respect to claim 27, for at least the reasons noted above with respect to claim 1, *Hu* fails to teach or suggest a device including "a first means for illuminating; a second means for illuminating having a warm-up period less than that of the first means for illuminating and generating *an amount of heat effective to shorten a warm-up time period of the lamp from between 45 and 90 seconds to between 15 and 30 seconds*; and a means for powering the first and second means for illuminating for a time period and then turning off the second means for illuminating following expiration of the time period."

CONCLUSION

In view of the amendments and remarks submitted herein, Applicant respectfully submits that each of the pending claims 1-8 and 10-30 is in condition for allowance. Therefore, reconsideration of the objections and rejections is requested and allowance of those claims is respectfully solicited. In the event that the Examiner finds any remaining impediment to a prompt allowance of this application that could be clarified in a telephonic interview, the Examiner is respectfully requested to initiate the same with the undersigned attorney.

The Commissioner is hereby authorized to charge payment of any of the following fees that may be applicable to this communication, or credit any overpayment, to Deposit Account No. 23-3178: (1) any filing fees required under 37 CFR § 1.16; and/or (2) any patent application and reexamination processing fees under 37 CFR § 1.17.

Dated this 2nd day of March 2009.

Respectfully submitted,

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Exhibit A
"Learn About LEDs"
published by the Energy Star Program of the EPA and DOE

Learn About LEDs

What are LEDs?

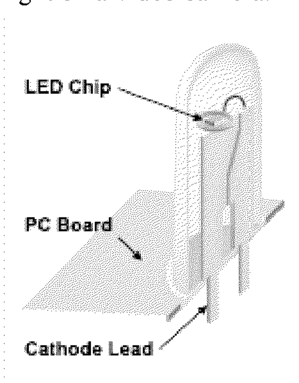
LED stands for light-emitting diode. LEDs are small light sources that become illuminated by the movement of electrons through a semiconductor material.

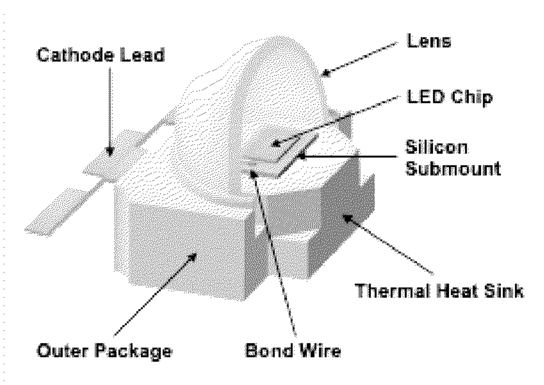
Low-Powered LEDs

LEDs used to draw attention to something, such as an exit sign, a green power button on a computer, or a red blinking light on a video camera.

High-Powered LEDs

LEDs used to illuminate an area. ENERGY STAR qualified LED lighting uses multiple illuminator LEDs inside a fixture to produce white light.





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What is Solid-State Lighting?

LEDs are part of a family of lighting technologies called Solid-State lighting. This family also includes OLEDs (Organic Light Emitting Diodes). OLEDs (pronounced OH-leds) consist of sheets of carbon-based compounds that glow when a current is applied through transparent electrodes. While not yet market ready, OLEDs will function like a thin film on a wall or ceiling that illuminates a room. Like LEDs, OLED technology is advancing rapidly.

Solid-State lighting (SSL), most commonly seen in the form of Light Emitting Diodes (LEDs), has the potential to

revolutionize the efficiency, appearance, and quality of lighting as we know it.

The U.S. Department of Energy estimates that rapid adoption of LED lighting in the U.S. over the next 20 years can:

- Deliver savings of about $265 billion.
- Avoid 40 new power plants.
- Reduce lighting electricity demand by 33% in 2027.

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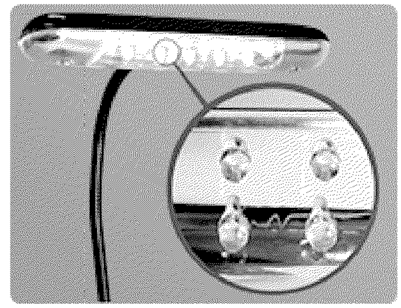

Many tiny LEDs are used in each fixture.

How are LED lighting products different from other lighting, like fluorescent or incandescent?

LED lighting is more efficient, durable, versatile and longer lasting than incandescent and fluorescents lighting. LEDs emit light in a specific direction, whereas an incandescent or fluorescent bulb emits light — and heat — in all directions. LED lighting uses both light and energy more efficiently.

For example, an incandescent or compact fluorescent (CFL) bulb inside of a recessed can will waste about half of the light that it produces, while a recessed down light with LEDs only produces light where it's needed — in the room below.

Incandescent bulbs create light by passing electricity through a metal filament until it becomes so hot that it glows. Incandescent bulbs release 90% of their energy as heat.

In a CFL, an electric current is driven through a tube containing gases. This reaction produces ultraviolet light that gets transformed into visible light by the fluorescent coating (called phosphor) on the inside of the tube. A CFL releases about 80% of its energy as heat.

LED lighting products use light emitting diodes to produce light very efficiently. The movement of electrons through a semiconductor material illuminates the tiny light sources we call LEDs. A small amount of heat is released backwards, into a heat sink, in a well-designed product; LEDs are basically cool to the touch.

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Basic parts of LED lighting

LED lighting starts with a tiny chip (most commonly about one square millimeter) comprised of layers of semi-conducting material. LED packages may contain just one chip or multiple chips, mounted on heat-conducting material called a heat sink and usually enclosed in a lens. The resulting device, typically around 7 to 9 mm on a side, can be used separately or in arrays. LED devices are mounted on a circuit board, which can be programmed to include lighting controls such as dimming, light sensing and pre-set timing. The circuit board is mounted on another heat sink to manage the heat from all the LEDs in the array. The system is then encased in a lighting fixture, architectural structure, or even a "light bulb" package.

Note: The DOE ENERGY STAR LED lighting program does not currently cover LED "bulbs" designed to replace regular screw-base incandescent bulbs. LED bulbs will be included as soon as these products can meet the stringent requirements of the program.

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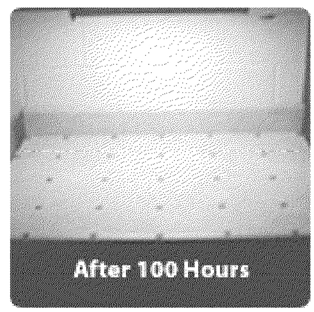
Aren't all LED lights highly efficient and long-lasting?

Not necessarily. LEDs have been efficient and long lasting as indicator lights in electronics for years, but using LEDs to create stable white light for general lighting presents new challenges. The key to success is smart design. To qualify for ENERGY STAR, LED lighting products must pass a variety of tests to prove that the products will display the following characteristics:

- **Brightness is equal to or greater than existing lighting technologies** (incandescent or fluorescent) and light is well distributed over the area lighted by the fixture.
- **Light output remains constant over time**, only decreasing towards the end of the rated lifetime (at least 25,000 hours or 22 years based on use of 3 hours per day).
- **Excellent color quality**. The shade of white light appears clear and consistent over time.
- **Efficiency is as good as or better than fluorescent lighting**.
- **Light comes on instantly** when turned on.
- **No flicker** when dimmed.
- **No off-state power draw**. The fixture does not use power when it is turned off, with the exception of external controls, whose power should not exceed 0.5 watts in the off state.



After less than a year of use, a poorly designed LED product can flicker, shift in color, look dim, offer uneven light, or continue to use power when turned off, among other problems.

Bad design can lead to a wide range of problems, some immediately observable and some not. Poorly designed products often come with exaggerated claims while failing to deliver on the quality specifications above.

Choose ENERGY STAR quailified LED fixtures to ensure the products you purchase perform well.

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- Why Choose ENERGY STAR
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